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5. Family STRATIOMYIDAE (Diptera)[1]

By MAURICE T. JAMES[2]

Fourteen species of Stratiomyidae are represented in the collections, 9 or probably 10 of which apparently are new to science. Three of the previously known species, *Hermetia illucens* (Linnaeus), *Microchrysa bicolor* (Fabricius), and *Sargus notatus* Wiedemann, are widespread throughout the Neotropical Region, although the last of these is represented, as noted below, by an Antillean form that differs in appearance from most mainland material. The interesting distribution of *Artemita inornata* (Williston) is discussed under the heading of that species. The remaining species, except the unnamed *Nemotelus* and the new *Pachygaster*, show distinct Neotropical affinities. *Cyphomyia dominicana* is a member of an Antillean complex, with a closely

[1] Other faunal studies in this series are: 1, Kier, Proc. U.S. Nat. Mus., 1966, vol. 121, no. 3577, pp. 1–9; 2, Stone, ibid., 1966, vol. 121, no. 3578, pp. 1–6; 3, Kirsteuer, ibid., 1967, vol. 123, no. 3610, pp. 1–6; 4, Allen, ibid., 1967, vol. 123, no. 3617, pp. 1–4. A companion series on the flora appears in the "Contributions of the United States National Herbarium." The present paper also is Scientific Paper 2930, College of Agriculture, Washington State University; the work was conducted under Project 9043.

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related species in St. Vincent and another to the north of Dominica; *Pelagomyia illucens* has a close relative in St. Vincent; and the remaining species have closest relationships with mainland South and Middle American forms.

Notes on color and pattern of eyes of several species, made on live and recently killed specimens, have been furnished by George C. Steyskal (see also figs. 8–13).

Cyphomyia dominicana, new species

FIGURES 1, 7, 8

MALE.—Head mainly black; frontal triangle a sordid yellowish brown, this color extending very slightly below bases of antennae laterally; face mostly with a dark blue, metallic sheen. Frontal triangle with long black pile; face with dense pale yellow tomentum, thickest laterally but, when viewed dorsally, obscuring most of the face; some longer semi-erect yellow pile below and some scattered, mostly black, long, erect hairs in the middle of the face; narrow occipital orbits yellowish tomentose except on dorsal third, where the orbits vanish; genae and lower occiput with erect whitish to pale yellow hairs. Eyes uniformly but not thickly covered with long pile, almost as long as first antennal segment, mostly black but some whitish below. Proboscis yellowish brown, with pale hairs. Antennae black, flagellum reddish brown toward base on inner surface, elongated, tapering to terminal segment, which is in the form of a greatly attenuated cone, almost tubular, and ending in a small hair; flagellum 0.54 to 0.60 head width.

Thorax mostly black, some brownish areas on pleura, especially below wing base; mostly with dark bluish reflections; mesonotum with appressed black and pale yellow, dense tomentum and fairly abundant erect, long, mostly blackish pile; the black tomentose coverings in the form of two broad median vittae that appear confluent before the suture in most lights and two broad lateral postsutural vittae; scutellum with pale yellow tomentum and semi-erect pile and with considerable long, erect pile as on mesonotum; pleural pile and tomentum more whitish; a glossy band from front coxa to notopleural suture. Scutellar spines on a level with scutellum, somewhat divergent, as long as scutellum, tending to become brownish beyond base; hairs of spines long, mostly black dorsally and yellow ventrally. Legs mostly black with some bluish reflections; knees yellow; front and middle basitarsi yellow, becoming blackish apically; second tarsomere of fore- and middle tarsi and hind basitarsus more or less yellowish below and at base. Wings hyaline; veins brown; stigma pale yellowish brown; second basal and anal cell each with

only a small patch of microtrichia at apex; alula devoid of microtrichia except anteriorly.

Abdomen black with dark blue-green reflections over most of its surface; dorsally with long, erect black hairs and short semi-erect black pile; some pile on posterior angles of first tergum whitish; a silvery tomentose spot on each anterior angle of fourth and fifth tergum; venter with abundant short, semi-erect whitish pile. Genitalia as in figure 1; dististyli conically tapering; guards of aedeagus extending well beyond intromittent organ, which is blunt apically. Length 8.5–9.0 mm.

FEMALE.—Frons narrow, at narrowest 0.11 to 0.12 head width, almost parallel sided but widening toward antennal bases; lower part of frons, including callus and area below reaching ventrad just below antennal bases, brownish yellow. No black pile on head; frons and vertex, including ocellar triangle and area between it and each eye, with dense pale yellow tomentum. An extremely narrow, low carina extending along midfrontal line about half way or more to callus; lower frons depressed medially below callus. Occipital orbits narrowly but uniformly developed, about one-half width of frons, and wholly pale yellow tomentose. Pile of eyes very short. Thorax as in male but without erect black hairs and without the black-tomentose median vitta discretely separated. Scutellar spines more robust, 0.65 to 0.75 length of scutellum, usually wholly black or bluish black, sometimes becoming brownish yellow apically. Stigma somewhat more brownish than in the male, but still pale; membrane with a slight tendency toward browning. Abdomen more bluish than in male, with lateral silvery-tomentose area on third as well as fourth and fifth terga, these patches slightly more conspicuous than in male. Ovipositor brown, dull, with very short stiff black hairs; cerci yellow. Length 5.0–9.0 mm.

COLOR OF EYE IN LIFE.—Male: Scarlet in ground color with distinct narrow median wedge of brassy green; also one or two faint brassy green wedge-shaped marks in lower half and sometimes a faint anterior area of brassy green in upper half (fig. 8).

PUPARIUM.—A dorsal view of the head and prothorax is shown in figure 7.

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE.—♂ with puparium, Clarke Hall, Nov. 12–17, 1964, P. J. Spangler type no. 69516, USNM.

ALLOTYPE.—♀, Clarke Hall, Mar. 21–31, 1965, malaise trap, W. W. Wirth.

PARATYPES.—2 ♂♂, 1 ♀, all with puparia, same as holotype; 11 ♀♀, same as allotype but Jan. 8 to Feb. 20; 5 ♀♀, Clarke Hall, May 21 to June 2, 1966, G. Steyskal; 1 ♀, South Chiltern, Dec. 8–10,

1964, Spangler; 1 ♀, same, Mar. 25, 1964, H. Robinson; 1 ♀, no locality, July 1964, F. D. Bennett.

REMARKS.—A group of five known species, all from Florida and the Caribbean area, show close relationships to one another. These are *Cyphomyia chalybea* (Wiedemann), the type of Osten Sacken's nominal genus *Neorondania* (=*Rondania* Jaennicke, 1867, preoccupied by *Rondania* Bigot 1854), *C. marginata* Loew, *C. lasiophthalma* Williston 1896 (not Williston 1900), *C. brevis* James, and the present species. *Cyphomyia anchialus* Walker is probably, as Kertész considered it, a synonym of *C. chalybea*. All species are relatively short and stocky for the genus, with hairy eyes and an antennal flagellum that tapers to an acute style. There are only minor differences, possibly not constant, in the structure of the male genitalia. *Cyphomyia brevis* has very short eye pile in both sexes and the femora are reddish yellow, contrasting with the darker, brownish tibiae; *C. marginata* is easily separable by its reddish-brown scutellum.

The remaining three species are more difficult to separate. *Cyphomyia chalybea* differs from *C. dominicana* in its shorter antennal flagellum (less than half the head width); the flagellum is broadly reddish yellow on its basal four or more segments, and the silvery tomentose spots on the abdomen are much more conspicuous than in *C. dominicana*. The description of *C. lasiophthalma* from St. Vincent agrees with *C. dominicana* in most respects except for the metallic blue color of the frontal triangle in the male and the assumption one must draw from the description that the eyes of the female, like those of the male, have long pile. Two males from Grenada (Botanical Gardens, Nov. 12, 1918, Harold Morrison) agree with Williston's description and seem to be his species; as in *C. chalybea*, the base of the flagellum (three segments) is distinctly reddish yellow and the silvery abdominal spots are relatively conspicuous; the antennal flagellum is 0.50 the head width.

Pelagomyia illucens, new species

FIGURE 2

Close to the type-species of the genus, *P. albitalus* Williston from St. Vincent; that species is described as having the face, frons, and thorax shining deep green and the thorax with erect black pile, a characterization that does not apply to the Dominican species. *Pelagomyia fasciata* (Thomson) (=*P. dubia* Curran), from the Galápagos Islands, is a nonmetallic species with very short pile on the eyes.

MALE.—Head mainly shining black, in certain lights with dull green reflections; a narrow transverse yellow band on upper part of

frontal callus continued ventrad in the middle across the antennal bases and expanding onto an indefinitely outlined facial area that may, in turn, expand into a transverse band across the middle of the face. Some yellow pile at lower posterior angle of eye, head otherwise with rather dense, erect black pile. Vertex in holotype 0.27 head width, widening to 0.36 head width at callus, then narrowing to 0.30 head width across oral margin. Eyes with dense black pile that is somewhat longer than second antennal segment. Antenna as in *P. albitalus* (cf. Williston's figure reproduced in Curran, 1934, p. 136), black haired. Proboscis pale yellow with some black but mostly with concolorous hairs.

Thorax black, with blue-green reflections, particularly under certain lights, these reflections more obvious than on the head. Thoracic pile chiefly golden, that of mesonotum mostly tomentum-like but semi-erect to erect laterally, that of pleura mostly semi-erect; some erect black mesonotal pile but, except when viewed posteriorly, this is much less conspicuous than the golden pile; pleura also with patches of short, erect black pile or with black hairs intermixed with the golden, but this again less conspicuous than the golden pile. Squamae mostly brown, their fringes coppery. Halteres greenish yellow. Coxae, trochanters and femora except apices black; front and middle tibiae more or less brownish on median half, hind tibia blackish on apical half; last tarsomere of front and middle tarsi yellowish brown; hind tarsus from apical part of basitarsus blackish; tibiae and tarsi otherwise whitish. Wing distinctly infumated beyond base of discal cell, subhyaline at base; extreme wing base and second basal and anal cells except extreme apex devoid of microtrichia; vein r–m strongly arcuate; R_{2+3} arising beyond r–m by more than length of r–m.

Abdomen black; a large translucent area usually taking up most of the first segment and a part, sometimes most, of the second, resulting from a pale, translucent integument both dorsally and ventrally; sometimes, but not usually, the suggestion of a division of this area along a median line. Second to fourth abdominal segments almost parallel sided. Abdomen with appressed black pile over most of the dorsum and on venter except for first sternum, where the appressed hairs are yellow. Second to fourth terga each with an apical narrowly interrupted golden tomentose band; first three terga with golden erect to semi-erect lateral pile. Genitalia black; ninth sternum prolonged laterally on each side into processes that curve medially, the dististyli arising inconspicuously medially of these processes and ending before their apices (fig. 2); aedeagus trifid, the guards cylindrical and bowed gently outward at apex, the intromittent organ also cylindrical. Apicoventral part of ninth sternum

bridgelike, the part basad of it receding and convex, polished. Length 8–11 mm.

FEMALE—Very similar to the male; metallic reflections of head and mesonotum more bluish; thoracic and abdominal tomentum and pale pile yellowish rather than golden; abdominal ground color entirely black or almost so.

COLOR OF EYE IN LIFE.—Plain dark olive green.

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE AND ALLOTYPE.—♂ and ♀, respectively, in copula, Clarke Hall, June 12, 1966, G. Steyskal, type no. 69517, USNM.

PARATYPES.—8 ♂♂, same but May 19 to June 2; 3 ♂♂, same but Mar. 12 and Apr. 11, 1964, H. Robinson; 1 ♀, same but Mar. 21–31, 1965, light trap, W. W. Wirth; 3 ♂♂, same but Apr. 5 and 12, 1964, O. S. Flint, Jr.; 1 ♂, same but Mar. 3–13, 1965, H. E. Evans; 1 ♂, near Clarke Hall, Mannett Gutter, May 1, 1964, Flint.

REMARKS.—The name "illucens" is doubly appropriate in describing the translucent abdominal area and in indicating the superficial resemblance to a small specimen of *Hermetia illucens* (Linnaeus).

A comparison of the structure of the genitalia with that of *Chrysochlorina* (cf. Iide, 1966), particularly in respect to the interesting development of the ninth sternum, leads to further confirmation of the concept of the relationship of the two genera. Williston (1896) states that he at first considered *P. albitalus* to belong to the genus *Chromatopoda;* this genus likewise has a similar type of genitalia and clearly is a chrysochlorine in this and other respects.

Hermetia illucens (Linnaeus)

DISTRIBUTION.—Widespread, Old and New World tropics, subtropics, and warmer temperate regions.

I have the following records from Dominica: 9 ♀♀, 2 ♂♂, Clarke Hall, Dec. 1–6, 1964, P. J. Spangler, Jan. 18 to Mar. 11, 1965, J. F. G. and Thelma Clarke, Feb. 10–17, 1965, H. E. Evans, Jan. 11–31, 1965, malaise trap, W. W. Wirth, and June 1–2, 1966, G. Steyskal; 1 ♀, South Chiltern, Dec. 8–10, 1964, Spangler; 2 ♂♂, 1 ♀, Soufriere, June 4, 1966, Steyskal.

Brachycara slossonae (Johnson)

Although there is no material of this species in the collection from Dominica, there are 4 ♂♂ (St. Johns, Antigua, Feb. 2 to Mar. 14, 1965, H. E. Evans) taken on the Bredin-Archbold-Smithsonian Expedition. This species was described from Florida and occurs in the West Indies, as far south as Tobago.

Nemotelus (Camptopelta) species

One male (Clarke Hall, Jan. 21–31, 1965, malaise trap, W. W. Wirth) apparently represents a new species, but it is unwise to describe it on the basis of a single specimen. In Hanson's (1963) revised key, it traces to *N. glaber* Loew; it is smaller and more shiny than the mainland material of *N. glaber* that I have seen.

Sargus notatus Wiedemann

This widespread Neotropical species is represented in Dominica by a form that might be recognized at least as a distinct subspecies were it not for the following facts: (1) a disturbing variant occurs, along with the better represented form, in this very restricted geographical area; (2) other faunas, including those of very restricted areas, show too much intergradation occurring in the sampled series.

Most of the series recorded here from Dominica show the following combination of characters in the females:

Frons narrow, at narrowest 0.13–0.14 head width; sides of upper frons and vertex glabrous, this area narrow and parallel sided, no wider than transverse diameter of adjacent posterior ocellus; sides of frons anterior to ocellar triangle strongly punctured and rugulose anteriorly; a glabrous stripe, about one-third width of frons, extending anteriorly from anterior ocellus but merging into the punctured areas well before the callus; upper margin of callus convex. Pile of frons and vertex black, that of occiput yellowish. Abdomen blue with purplish reflections; apex of first tergum and anterior margin of second more or less yellowish; a small triangle at each posterior angle of second to fourth terga yellow, with whitish pile. Hind femur at base, hind tibia except basal third to half, apical third of hind basitarsus and subsequent tarsomeres, all black, legs otherwise yellow. Color of eye in life dark green with bronzy sheen.

Females that I have seen from the American mainland have the second tergum yellow except for a spot on each side; on the other hand, females from Grenada, Jamaica, and Puerto Rico have the second tergum as in the Dominican form. This would seem to indicate at least an Antillean subspecies except that the other characters indicated for the Dominican form are all variable; also, two of the Dominican females show some intermediacy in the coloration of the second tergum in that there are suggestions of a pale area comparable to that of the continental form; moreover, some specimens in a series from Barro Colorado Island, Canal Zone, are identical with the Dominican form except for the pale second tergum.

Males seem to be alike in the island and the continental forms; I can see no differences in the genitalia as well as in other characters.

The black coloration on the hind legs is less intense and, particularly on the femur, less extensive, but usually developed only subbasally. Two females have this coloration as in the males; two males have the hind femur and tibia almost wholly yellow.

The continental form has the frons of the female wider, usually 0.17–0.18 the head width, less densely punctured, and with the glabrous stripe adjacent to the eye on the upper frons and vertex wider, usually widest opposite the posterior ocellus and distinctly wider than the transverse diameter of the ocellus; the median glabrous area anterior to the anterior ocellus is more than one-third the width of the frons; the pile of the ocellar triangle and vertex and sometimes entire frons is yellow, and the yellow area on the second tergum is conspicuous. As indicated above, however, all of these characters except the last are variable in both the continental and island forms, though constant for the Dominican series except as indicated above.

The North American and Cuban *Sargus lucens* Loew (=*S. clavis* Williston, =*S. tricolor* Loew) fits also into this same complex. We may be dealing here with a single polytypic species.

DISTRIBUTION.—Throughout the Lesser and Greater Antilles, and most of the tropical American mainland.

I have the following records from Dominica: 14 ♀♀, 8 ♂♂, Clarke Hall, Jan. 24 to Feb. 28, 1964, H. Robinson; Nov. 19–30, 1964, P. J. Spangler; Sept. 1, 1965, J. F. G. Clarke; Jan. 21 to Mar. 10, 1965, light trap, W. W. Wirth; Feb. 20–28, 1965, H. E. Evans; June 6–11, 1966, G. Steyskal; 1 ♂, near Clarke Hall, Mannett Gutter, July 1, 1964, O. S. Flint, Jr.; 1 ♀, South Chiltern, Feb. 20, 1965, Wirth; 2 ♀♀, Pont Cassé, Oct. 12–14, 1964, Spangler; and 5 miles south of Pont Cassé, Apr. 11, 1964, Flint. The last two specimens represent the pale-legged form.

Merosargus eunomus, new species

FIGURES 3, 6, 9, 10

Close to *M. opaliger* Lindner but readily distinguishable from that species by the black spot on the mesopleuron; also, among other differences, in *M. opaliger* the median frontal vitta is much broader, the abdominal spots on the third and fourth terga are not so discrete, the three stripes forming the presutural extension of the quadrate mesonotal area are brownish, not metallic, and the setose processes of the ninth sternum of the male are not developed. In my key to *Merosargus* (James, 1941, pp. 305–6) *M. eunomus* runs to couplet 27 but, because of the metallic markings of the mesonotum, will not fit either alternative.

MALE.—Frons, vertex, and occiput black; frontal callus white, area between this and antennae, also face, pale yellow. Frons about

0.20 head width, parallel sided to frontal callus, then widening; median area 0.14–0.16 width of frons, longitudinally with irregular striations and in certain lights with greenish reflections; lateral area punctate, each puncture bearing a fine yellow hair; face and frons below callus with fine yellow hairs but without evident punctures; pile of occipital triangle mostly black. Proboscis pale yellow to whitish with concolorous hairs. Antenna orange yellow; scape and pedicel black haired, scape about twice as long as wide; arista subapical, the apex of the flagellum convex below it; arista dark brown to black, thickened and with a few black hairs at base.

Thorax mainly yellow, tending to reddish yellow dorsally; a large shining black quadrate spot on mesopleuron adjacent to notopleural suture; mesonotum with the median two-fifths, behind the suture, metallic green to violaceous, this color extending over the scutellum and produced onto the presutural area of the mesonotum in the form of a narrow median and a pair of dorsocentral stripes, the three becoming more attenuated and sometimes vanishing anteriorly; the extent of the metallic area shows considerable variation, in the extreme instance taking in a considerable part of the median presutural area as well as all of the scutellum and postscutellum. Pile of pleura yellow; that of mesonotum short, black, with a longer, yellowish pile intermixed, consequently the color apparently changing with the light incidence.

Legs predominantly pale yellow; middle tibia broadly blackish at base; hind tibia blackish but with the median half pale yellow to whitish. Wing almost hyaline, slightly smoky; discal cell rather short and blunt, in the holotype 0.63 as wide as long and r–m 0.43 as long as width of discal cell; R_{2+3} arising slightly beyond r–m, bending toward R_1 and running parallel with and close to it to union with costa; alula slender, generally parallel sided, about eight times as long as wide, bare of microtrichia; 15 to 20 hairs on bulbous base of second anal vein but third anal with only pubescence. Halteres yellow.

Abdomen elongate-oval, broadest at apex of fourth segment; basically yellow but with a clear-cut, subquadrate black spot with a distinct violaceous reflection on each side of each of the first four terga; these spots broadly reach the lateral margins but are broadly separated from the abdominal incisures; distance between the two on any one tergum variable but approximately equal to transverse length of spot; fifth tergum with a similar pair of spots but reaching posterior margin and broadly confluent there; first sternum with a black quadrate spot adjacent to each tergal spot of the same segment; sixth segment wholly black, dorsally and ventrally. Pile black dorsally, mostly appressed but becoming semi-erect laterally at incisures, yellow ventrally, mostly appressed. Genitalia (fig. 3) yellow; dististyli broad and somewhat leaflike; aedeagus simple, without evident guards; a pair of

knoblike prominences, each bearing stiff setae, arising apparently from the ninth sternum. Length 4.5–7.5 mm, of holotype 5.5 mm.

FEMALE.—Similar to male except sexually; frons not noticeably wider than in male; fifth tergum black, with the usual violaceous reflections, except a moderately broad anterior margin; sixth segment black only dorsally, with a median apical area yellow. Last segment of ovipositor brownish, a transverse polished area at apex of its tergum; second segment of cercus almost black.

COLOR OF EYE IN LIFE.—Male: Bronzy red in lower half; olive green in upper half, with narrow anterior wedge of indigo (fig. 9).

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE.—♂, Clarke Hall, June 6, 1966, G. Steyskal, type no. 69518, USNM.

ALLOTYPE.—♀, same data but June 8.

PARATYPES.—2 ♀♀, 36 ♂♂, same but May 16 to June 10, Steyskal, and Mar. 11–31, 1965, light trap, W. W. Wirth; 1 ♂, South Chiltern, Feb. 2, 1965, Wirth.

REMARKS.—The name "eunomus" means "orderly," referring to the neat arrangement of the abdominal spots.

Microchrysa bicolor (Wiedmann)

FIGURES 11, 12

COLOR OF EYE IN LIFE.—Male: Upper, larger ommatidia brick red; lower, smaller ommatidia green with reddish reflections, becoming quite intense green adjacent to upper section (fig. 11). Female: Upper part bronzy reddish; lower part reddish with greenish reflections; slightly above middle with transverse green band, narrowed somewhat posteriorly and bordered above with very dark indigo band and below with narrower deeper green stripe (fig. 12).

DISTRIBUTION.—Throughout the Greater and Lesser Antilles and most of the mainland of tropical America.

I have the following records from Dominica: 9 ♀♀, 1 ♂, Clarke Hall, Jan. 8–31, 1965, malaise trap, W. W. Wirth; 2 ♀♀, 1 ♂, same, June 1964, light trap, O. S. Flint, Jr.; 5 ♀♀, 1 ♂, same, May 16 to June 12, 1966, G. Steyskal; 1 ♂, same, Feb. 10, 1965, reared banana stem, Wirth; 1 ♂, same, Jan. 22, 1964, H. Robinson; 1 ♀, Hillsborough Estate, Mar. 15, 1965, Wirth.

Artemita inornata (Williston)

Kertész (1914) did not know this species and doubted its distinctness from *Acanthina bellardii* Giglio-Tos on the basis that the reddish color of the scutellum in the latter species may not be diagnostic. I have identified both *Artemita inornata* and *Acanthina bellardii* from Mexico, and the two are quite distinct; the red scutellum of *Acanthina*

bellardii stands out in strong contrast to the color of the thorax and abdomen and is not merely a reddening of certain integumentary areas, as is so often the case. There are a number of other differences between the two, but *Artemita inornata* seems most closely related to *Acanthina bellardii*. One morphological peculiarity that the two have in common is the presence of a polished depressed area at the base of the anteroventral surface of the hind tibia. This does not occur in the other species of *Artemita* known to me nor in the related genera *Spaniomyia*, *Acanthinomyia*, and *Cibotogaster*.

The reference of *Acanthina inornata* to *Artemita* is quite clear even though this species will trace only imperfectly to that genus in the keys of Kertész (1914, 1916) and Lindner (1964). The scutellum is on a plane with the mesonotum, as in *Acanthinomyia*, and without a deep groove separating them, but the mesonotum is not flattened, as in *Acanthinomyia*, and the other characters of signifiance, as well as the general appearance, are those of *Artemita*. In *Acanthina bellardii* the incision between the scutellum and the mesonotum is likewise shallow, not much more noticeable than in *Artemita inornata*.

Because of the brevity of Williston's description and the fact that the illustration accompanying it is erroneous in at least two respects (antennal and scutellar structure; cf. Kertész, 1914), and because of the vagueness in such respects as the description of the mesonotal and abdominal pattern, the females from Dominica are described herein in detail.

FEMALE.—Occiput except orbits and broad lateral margins and genae except orbits black, head otherwise yellow, becoming reddish yellow on upper occipital orbits and margin, cerebrale, midfrontal line, and lower frons and face. Frons at narrowest about 0.14 head width, widening to about 0.20 head width at vertex and also to about 0.20 head width at frontal callus, thence broadening abruptly to face. Eyes with moderately dense and long pile; pile mostly yellow but prominently black above. Pile of head yellow. Antenna very similar to that of *Artemita conveza* Walker or *Artemita aurata* Macquart (cf. Kertész, 1914, fig. 28), but terminal flagellar segment slightly longer and more slender; scape and pedicel reddish yellow, flagellum reddish at base, gradually becoming black toward apex; first three flagellomeres with whitish sensoria against the darker background; apex of flagellum with three or four erect hairs. Proboscis black.

Thorax black with whitish to yellowish appressed pile; mesonotum with three longitudinal vittae that lack this pile and have instead inconspicuous black pile, the outer vittae reaching the corners of the scutellum but widely separated from the humeri, the median one broad and running from anterior margin of mesonotum to base of scutellum, from anterior view interrupted by a median vitta of golden

pile; mesopleura and sternopleura with some black semi-appressed hairs, the pleural pile otherwise pale and mostly tomentum-like. Scutellum almost on a plane with mesonotum, the groove separating them shallow; scutellum moderately convex, well margined; spines fairly robust, finger-like, blunt apically and tending to turn toward the median line. Wing venation similar to that of *Artemita peruviana* (cf. Kertész, 1914, fig. 32); base of R_s weakened; part of M separating basal cells largely reduced to a fold; wing wholly hyaline except yellow stigma; microtrichia greatly reduced in area covered, wholly lacking in cells R_2 and R_4, reduced to a small patch in the discal cell, lacking in large part on anterior half of wing but much better developed at apex and posterior part, including entire alula. Halteres yellow. Legs black, only the knees reddish yellow.

Abdomen black; fourth tergum either wholly black or with irregularly outlined reddish patches; first and second terga with short erect whitish hairs; second to fifth terga with lateral patches of whitish tomentum, small on second, much larger on third, taking up all of fourth except a medial basal and a pair of sublateral apical triangular patches and all the fifth except a narrow median vitta; some erect scattered black pile intermixed with yellow on fourth and fifth terga. Apical third of fifth tergum abruptly bowed upward, polished medially, rugulose and with erect black hairs on its posterior margin. Venter black; first sternum with thick, short tomentum with a copperish hue; other sterna with scattered whitish appressed hairs. Ovipositor with intermediate segments prominently striated transversely. Length 5.0–5.5 mm.

DISTRIBUTION.—Extreme southern Texas, Mexico, Dominica.

I have the following record from Dominica: 3 ♀♀, Clarke Hall, Mar. 21–31, 1965, malaise trap, W. W. Wirth.

REMARKS.—The species was described from the State of Veracruz, Mexico. I have specimens from Donna, Tex., in the lower Rio Grande Valley and from the Mexican states of Tamaulipas, Nayarit, and Oaxaca. There is no significant difference between the Mexican and the Dominican females. This discontinuous distribution can be explained most satisfactorily in one of two ways, either from our ignorance of the true distribution of the species or on the assumption that it was introduced from Mexico (or at least the Central American mainland) into the Lesser Antilles.

Psephiocera marginata, new species

FIGURES 13, 20

FEMALE.—Entirely black except antennae, legs, wings, halteres, and ovipositor. Head 0.70 as long as high, subglobose; ocellar triangle low in profile; occipital orbits very narrow. Vertex in holotype 0.26

head width, frons narrowing gradually to 0.14 head width at callus, then widening onto face; frons above callus and vertex shining, with very sparse, microscopic white hairs; lower part of frons and face, particularly facialia, densely white tomentose, becoming somewhat yellowish below. Flagellum large, 1.5 as high as long, kidney shaped from inner view; apical half of flagellum blackish; arista black; antennae otherwise yellow. Proboscis brownish black with concolorous hairs.

Mesonotum with appressed brassy-yellow hairs, well distributed but relatively sparse and not conspicuous; supra-alar prominences and scutellum except base with similar black hairs; posterior bulge of mesopleuron and sternopleuron with scattered semi-erect white hairs, rest of mesopleuron and pteropleuron bare and shining. Scutellum (fig. 20) overall triangular, the effect accentuated by the distinctly margined, slightly upturned, flattened apical part, which takes in about one-third the length of the scutellum; entire sides of margined area beset with microdenticles. Legs wholly pale yellow, the femora on apical half slightly tending to brownish yellow. Halteres yellow, brownish on basal part of knob. Wings hyaline; heavier veins yellow, brownish on basal half; venation similar to that of *Meristocera laticornis* (fig. 15), but all veins except part of M separating discal cell distinct throughout; R_{2+3}, however, distinct throughout, though feeble, and branching from R_4 at cross-vein; cross-vein r–m distinct but short; anal cell narrower than combined width of basal cells; and R_4 more strongly evanescent at base. More than half of anal cell clothed with microtrichia.

Abdomen gradually expanding to base of third segment, thence rounded; area of denser punctures extending to apical part of fourth tergum, the fifth and sides of third and fourth broadly shining; venter with first sternum and sides of second densely punctured. Ovipositor yellow. Length 2.50–2.75 mm.

MALE.—Unknown.

COLOR OF EYE IN LIFE.—Female: Broad upper area reddish purple, crossed above middle with somewhat arcuate bronzy-green band that runs into similarly colored lower part of eye at rear (fig. 13).

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE.—♀, Clarke Hall, June 6, 1966, G. Steyskal, type no. 69519, USNM.

PARATYPE.—♀, Antrim, 1000 ft., March 1956, J. F. G. Clarke.

***Psephiocera callosa*, new species**

FIGURE 19

FEMALE.—Wholly black except antennae, legs, halteres, wings, and ovipositor. Head 0.82 as long as high; ocellar triangle low in

profile; occipital orbits very narrow. Vertex in holotype 0.27 head width, narrowing gradually to 0.18 head width at callus, then widening onto face; frons above callus subshining, somewhat rugulose, an elongated triangular, elongated sublateral area on each side toward callus shining; punctures and pile sparse; lower part of frons and face, particularly facialia, densely white tomentose; a rounded, depressed area above antennal bases, however, polished. Antennal flagellum of moderate size, 1.5 as high as long, transverse basally on inner side; flagellum brownish black on apical half, on inner side toward apex with a polished semilunar callus similar to that of *Neopachygaster* species but not so prominent; arista brownish, antenna otherwise yellow. Proboscis brownish black with concolorous hairs.

Mesonotum with brassy yellow hairs as in *P. marginata* but relatively dense and more conspicuous, especially before the scutellum; laterally before the suture these become yellow and are arranged longitudinally in about four irregular rows; some black appressed hairs on supra-alar prominences, anterior margin of mesonotum, and apex of scutellum; disc of scutellum with hairs as on mesonotum but not so conspicuous. Scutellum rounded, two-thirds as long as wide, prominently margined but margin not flattened and subparallel to discal part of scutellum and extending laterad a considerable distance (fig. 19); margin with a row of microdenticles. Legs wholly yellow. Wing essentially as in *P. marginata* but interruption of R_s at its base is not so prominent and R_{2+3} may arise either at or a little before r–m. Abdomen as in *P. marginata*. Ovipositor yellow. Length 2 mm.

MALE.—Unknown.

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE.—♀, Clarke Hall, Jan. 8–10, 1965, malaise trap, W. W. Wirth, type no. 69520, USNM.

PARATYPES.—2 ♀♀, same but Jan. 21–31 and Feb. 11–20.

The two species of *Psephiocera* described above will trace to paragraph 51 of Lindner's (1964) key to the Neotropical Pachygastrinae. In the two species following this paragraph, *Cyclotaspis inornata* Lindner and *Myiocavia tomentosa* Lindner, the height of the head in proportion to its length is 1.75–2.00, much greater than in *Psephiocera*, and the position of the antennal bases is much lower. If one disregards the point of origin of R_{2+3}, a character that is subject to some variation in the Pachygastrinae, and chooses paragraph 54 instead of 35, both species trace to paragraph 88, but below that one gets into difficulty. On the basis of the structure of the antennae and scutellum, *P. marginata* would trace to *Clarissa pallipes* Lindner but the white arista used as a supplementary key character contradicts the arista coloration in *P. marginata;* comparison with a para-

type of *C. pallipes* indicates other outstanding differences, for example, the much less strongly margined scutellum and the wholly reddish yellow flagellum. On the basis of the rounded scutellum, *P. callosa* traces to *Lasiodeictes niger* Lindner except for the black scutellar vestiture of that species.

Lindner keys three *Psephiocera* species with wholly yellow legs. *P. marginata* and *P. callosa* differ from all of these, according to the descriptions, in scutellar structure. The callosity on the antennal flagellum of *P. callosa* is apparently unique in this genus, so far as the known species are concerned. Comparison of *P. marginata* and *P. callosa* with *P. flavipes* Enderlein, the type of the genus, shows a number of differences; for example, the pleura of *P. flavipes* are almost wholly bare and shining and the weaker wing veins are reduced almost to folds, as in *Meristocera laticornis*. *Psephiocera metzi* Johnson from Jamaica, another yellow-legged species that is not included in Lindner's key, is described as having three stripes of yellowish-white tomentum on the mesonotum; in *P. callosa* and *P. marginata* the mesonotum certainly is not striped.

The value of the origin of R_{2+3} from the radial sector should be discounted as a generic character. It can often be used to good advantage, but there are a number of situations in which it can not be used. These include cases in which the radial sector bows gradually after its origin from vein R (cf. fig. 15) in contrast to those in which the sector is bent abruptly at cross-vein r–m (cf. fig. 16). In the former group, R_{2+3} is often weak or even evanescent, so that its origin may be indeterminable; even when it is determinable, it may be variable. Considerable study needs to be made of venational characters in the *Pachygaster*-like Pachygastrinae.

Meristocera laticornis, new species

FIGURES 14, 15

The genus *Meristocera* Lindner was based on a single species, *M. aurea* Lindner, from Santa Catarina, Brazil. The Dominica species is very similar, according to Lindner's description, but can be distinguished readily by the structure of the antenna, the flagellum in *M. laticornis* being much broader and more distinctly triangular.

FEMALE.—Black, with antennae except above, proboscis, legs including coxae, halteres, heavier wing veins, and cerci bright yellow. Frons about 0.25 head width and parallel sided above callus (described as one-third head width and narrowing above in *M. aurea*); vestiture as described for *M. aurea*. Flagellum blackish above, the sensoria large, prominent in the darkened area because of their contrasting yellow coloration; pedicel on inner side extending strongly into flagellum as in *M. aurea*. Vesture of thorax as described for *M. aurea*.

Wing hyaline, uniformly clothed with microtrichia except at extreme base, including basal part of anal cell; alula completely with microtrichia and with a long posterior fringe; veins forming discal cell except at base weak; part of M separating basal cells weak, evanescent at base; R_{2+3} weak, almost evanescent, at base, but arising well beyond r–m, which is short, almost punctiform (fig. 15). Densely punctate area of abdomen extending over basal half medially of fourth tergum, the punctures becoming more spaced laterally and toward fourth tergum; first sternum and extreme sides of second closely punctate, as toward base of abdomen dorsally, abdomen otherwise shining. Length 2.25 mm.

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE.—♀, Clarke Hall, Aug. 9–15, light trap, T. J. Spilman, type no. 69521, USNM.

Dactylodeictes depressus, new species

FIGURE 5

MALE.—Wholly black except antennae, legs, halteres and wings. Head similar in profile to that of *D. lopesi* Lindner (1964, fig. f) but not so high, about 1.7 as high as long (2.0 in *D. lopesi*; ocellar triangle not prominent. Frons barely wider than ocellar triangle at same plane and becoming narrower below, at narrowest about 0.13 head width; a prominent rounded pit between callus and antennal bases; callus small, polished, a narrow polished area extending from it to anterior ocellus; sides of frons above callus, frons below callus except frontal pit, and face with dense white tomentum. Occipital orbits narrowly developed below, densely white tomentose. Antennae yellow, flagellum and arista reddish yellow, flagellum on inner surface with a conspicuous, polished, brownish-black, crescentic spot. Proboscis brownish black.

Mesonotum and basal half of scutellum with fine, pale yellow appressed hairs; a pair of triangles extending on each side of median line almost to suture and leaving a narrow mid-dorsal presutural vitta, also a pair of rounded postsutural spots in line with these triangles, black haired; sides of mesonotum before suture with conspicuous, larger yellowish hairs arranged in irregular longitudinal rows, the integument in these areas more conspicuously shining than elsewhere on the mesonotum. Scutellum elevated at an angle of 45° with mesonotum, margined, microdenticulate on apical half, terminating in a bluntly rounded digitate process that is slightly longer than wide and that extends in a plane with the scutellum; apical half of scutellum with black hairs. Pleura yellow haired. Legs yellow; each femur with a preapical brownish band and foretibiae more or less brownish. Wing hyaline; veins brown; stigma yellow. R_s vesitgial basally;

part of M separating basal cells reduced to a fold. R_{1+3} arising at r–m. Microtrichia generally distributed except at extreme wing base, including largest part of anal cell; alula broadening somewhat toward apex, where it is rounded, completely beset with microtrichia. Halter with yellow stalk and white knob.

Abdomen largely black haired, some whitish erect pile mixed with black at sides of basal two segments; terga 3 and 4 each with a side spot of appressed whitish hairs, small on 3 but large on 4; a median vitta of whitish hairs running from middle of third tergum to apex of abdomen. Sternum wholly with inconspicuous black hairs. Genitalia small; aedeagus (fig. 5) trifid, the intromittent organ and guards similar in form, digitate and rounded apically; dististyli rather robust, oval. Length 3.0–3.5 mm.

FEMALE.—Frons distinctly broader than ocellar triangle, at narrowest 0.19–0.20 head width, median polished area proportionately narrower and sides of frons not so densely tomentose. Occipital orbits very narrowly developed on upper half and not tomentose, on lower half slightly broader than in male. Dorsal hairs of mesonotum more brassy; black hairs more extensive, the pair of triangles extending to form a presutural vitta confluent with the postsutural spots as well as with a pair of presutural spots, thus tending to isolate the median area into a presutural vitta of yellow hairs.

DISTRIBUTION.—Dominica, Lesser Antilles.

HOLOTYPE.—♂, Clarke Hall, Jan. 21–31, 1965, malaise trap, W. W. Wirth, type no. 69522, USNM.

ALLOTYPE.—♀, same.

PARATYPES.—1 ♂, 18 ♀♀, same but Jan. 11 to Mar. 31; 1 ♀, Hillsborough Estate, Mar. 13, 1965, H. E. Evans.

This species is apparently very close to *D. lopesi* Lindner. There are a number of small differences: the head proportions, the mesonotal pattern, the darkened anterior tarsus. *Dactylodeictes amazonicus* Kertész, the type of the genus, is easily differentiated by the elevated ocellar triangle, and *D. insularis* James, from the Galápagos, by the lack of differentiated lateral hairs on the mesonotum, the longer and more erect digitate process of the scutellum, and the lack of a differentiated vitta of hairs on the abdomen. Lindner and Kertész make no mention of the differentiated lateral, presutural hairs. What I take to be *D. lopesi* Lindner, based on a male from the Canal Zone and two females from Trinidad, has the mesonotal pile much coarser, covering the mesonotum except for a pair of spots on the postsutural prominences and a pair of inward extensions from the anterior margin, and without lateral differentiation of hairs; this agrees with Lindner's description.

***Pachygaster wirthi*, new species**

FIGURES 4, 16–18

MALE.—Head (fig. 17) about as long as high; eyes large, contiguous most of way from ocellar triangle to frontal triangle, upper facets much larger than lower but with no sharp line of demarcation; frontal triangle distinctly and deeply depressed below level of eyes; face likewise depressed but not so clearly so, concave in transverse profile; postgenal area prominent, occipital orbits evanescent above; occiput somewhat concave transversely above. Head black, largely shining, pile yellow, that on most of occiput very short and inconspicuous, black; sides of face whitish tomentose, this tomentum ending at antennal bases. Antennae orange yellow, arista black to blackish. Proboscis pale yellow.

From lateral profile, anterior dorsal angle of thorax prominent; scutellum approximately on plane with mesonotum, rounded, without margin or notches, microdenticulate along border. Thorax black; mesonotum and scutellum regularly clothed with golden tomentum, which is conspicuous but by no means conceals the background; pile on pleura more whitish and largely semi-erect; large polished bare areas on mesopleuron and pteropleuron. Legs yellow and yellow pilose, at most base of hind coxa brownish; apical tarsomere of each leg slightly brownish yellow. Wing somewhat infumated, stigma yellowish brown; sides of discal cell almost parallel (fig. 16); part of M separating basal cells feeble, its base evanescent; R_{2+3} arising well before r–m; basal part of R_{4+5} angularly bent at r–m. Microtrichia lacking only at extreme base, including basal half of anal cell; alula completely clothed with microtrichia. Halter yellow, knob becoming whitish.

Abdomen oval, about 1.7 as long as maximum width, widest near apex of second segment; densely punctured dorsally, the punctures confluent, the broad sides beyond apex of second abdominal tergum, however, shining, this area extending inward somewhat along the incisures and forming a complete apical margin on terga 4 and 5; the polished area bearing blackish, semi-erect pile; an irregular row of impressed, rounded punctures, quite distinct and much larger than those of the densely punctate area, along each of the tergal incisures. Venter black, shining, with scattered black pile; a large part of first sternum and extreme sides of second and third with fine punctures that are close together but not confluent, as on the dorsum. Genitalia slender, mostly brownish to blackish; aedeagus (fig. 4) trifid, the guards divergent apically; dististyli slender, acute apically. Length 3.0–3.5 mm.

FEMALE.—Head (fig. 18) shorter proportionately than in male; frons at narrowest 0.25 head width, widening to 0.40 head width at vertex; frons depressed below callus but not deeply so as in the male; occipital orbits well developed throughout. Frons with yellow pile. Antennal flagellum longer than in male. Abdomen nearly round, not more than 1.1 as long as wide, the shining area much more extensive and including all of fifth and posterior half of fourth tergum, as well as a broader lateral area. Ovipositor yellow.

DISTRIBUTION.—Dominica and Antigua, Lesser Antilles.

HOLOTYPE.—♂, Hillsborough Estate, Mar. 15, 1965, W. W. Wirth, type no. 69523, USNM.

ALLOTYPE.—♀, same but Mar. 13, 1965, H. E. Evans.

PARATYPES.—58 ♂♂, 20 ♀♀, same as holotype and allotype; 8 ♂♂, 3 ♀♀, Layou River mouth, Mar. 8, 1965, Wirth; 5 ♂♂, Clarke Hall, Feb. 20–28. 1965, Evans; 3 ♀♀, same, malaise trap, Mar. 8, 1965, Wirth; 2 ♂♂, 5 ♀♀, South Chiltern, Feb. 6 and Mar. 25, 1964, H. Robinson, and Dec. 8–10, 1964, P. J. Spangler, and Feb. 20, 1965, Wirth; 1 ♂, Antigua, St. Johns, Mar. 11, 1965, Evans; 1 ♀, Antigua, English Harbor, Apr. 20, 1958, J. F. G. Clarke.

The generic reference is made only provisionally and with the realization that ultimately it will have to be changed. A critical study of the genera of small, black *Pachygaster*-like Pachygastrinae is needed badly. The simplest thing to do would be to refer this species to a new genus, which it probably is, but it is certainly more like the Nearctic species of *"Pachygaster"* than they are like the type of the genus, *P. arta* Panzer. True *Pachygaster* probably does not occur in America.

In Lindner's (1964) generic key, this species traces to *Cyclotaspis;* the head in *C. inornata* Lindner, the type of the genus and the only known species so far, is distinctly higher than wide and the abdominal pile is erect. In my key (James, 1965) to the Nearctic genera it traces to *Pachygaster;* the venation is quite similar to that of *P. pulchra,* but that species has a much more differently shaped head and abdomen and, among other things, lacks the golden mesonotal tomentum. In *P. cazieri* James, from South Bimini, Bahamas, also placed only provisionally in this genus, the venation is much different, R_{2+3} arising well beyond cross-vein r–m. *Lyprotemyia formicaeformis* Kertész has many structural similarities with *P. wirthi,* but it can be distinguished readily by the long, hornlike apical prolongation of the scutellum. *Pachygaster wirthi* will not trace through the Kertész (1916) key because of a blind pocket in that key.

***Chalcomorphina planes*, new species**

Clearly congeneric with *C. aurata* Enderlein, the type and only known species in the genus, but differing in a number of respects, including the following: the vertex of the female is not elevated, as in *C. aurata*; the antennae, and particularly the scape, are shorter; the extent of the golden mesonotal pile of the female is much less extensive; and the scutellum is much more nearly on a plane with the mesonotum, with the apical part, particularly in the female, much less robust.

FEMALE.—Entirely black except antennae, legs, wings, halteres, and ovipositor. Head structurally similar to that of *C. aurata* but longer, the frons narrower, occiput not so distinctly concave, vertex and ocellar triangle not unusually elevated, face not projecting at antennal bases, and proportions of antennae different. Comparative ratios in holotype of *C. planes* and (in parentheses) a female *C. aurata* from Peru: head length to head height 0.63 (0.52 excluding, 0.48 including, ocellar triangle); frons at narrowest and at vertex, respectively, to head width 0.14, 0.19 (0.21, 0.25); antennal length to head length 1.18 (1.66); scape to entire antenna 0.33 (0.48). Frontal callus defined only by a narrow transverse impression, area above this completely shining, below with orbits extending to lower eye margin densely yellow tomentose, leaving median part of lower frons shining, middle of face, however, not shining and with scattered, appressed whitish hairs; gena shining; occipital orbits not developed. Mesonotum with golden tomentum as in *C. aurata*, but more limited in extent; this tomentum forming a median longitudinal vitta, a narrow cross-band just before the suture and another in front of scutellum and extending from one supra-alar region to the other, also basal half of scutellum golden tomentose; lateral presutural area shining, broadly set with about eight irregular rows of appressed yellow hairs, these merging into a small patch of tomentum medio-anteriorly, above the humerus; rest of mesonotum opaque and with appressed black hairs and tomentum. Pleura as in *C. aurata*, mostly bare and shining above except a patch of appressed white hairs on mesopleura, below mostly with white hairs. Scutellum at but a slight angle, not more than 15°, with mesonotum (about 60° in *C. aurata*), structurally as in *C. aurata* but not so robust. Legs wholly yellow. Halteres with brownish-yellow stalk and whitish knob. Wing hyaline; venation as in *C. aurata* and similar to that of *Meristocera* (fig. 15), but veins except part of M separating basal cells mostly distinct, not mere folds; cross-vein r–m either wanting or distinct and very short, the same variability in this respect occurring in *C. aurata*; M_{1+2} arising distinctly beyond r–m; wing set with microtrichia except at extreme base; alula more acute apically than in *Meristocera*, completely beset

with microtrichia. Abdomen black, mostly with whitish and fairly dense but inconspicuous, appressed hairs; densely punctate area extending onto basal part of fourth tergum; first sternum and sides of second, as usual, very densely punctate. Ovipositor mostly brownish yellow, terminal segment and cerci a clearer yellow. Length 1.60–2.25 mm.

MALE.—Eyes contiguous almost half way from anterior ocellus to antennal base. Frontal triangle shining medially, as in female. Presutural lateral areas of mesonotum with silvery hairs, arranged in irregular rows as in the female; rest of mesonotum and base of scutellum with dense, silvery, appressed tomentum-like hairs that conceal the background. Hind femur brownish yellow on median third. Abdomen with semi-erect lateral whitish hairs basally. Otherwise, except sexually, as described for the female.

HOLOTYPE.—♀, Clarke Hall, Jan. 21–31, 1965, malaise trap, W. W. Wirth, type no. 69524, USNM.

ALLOTYPE.—♂, same but Jan. 11–20. The male genitalia have been distended and are damaged to the extent that I can not make out any structural details; otherwise, the specimen is in good condition.

PARATYPES.—3 ♀♀, same as holotype and allotype.

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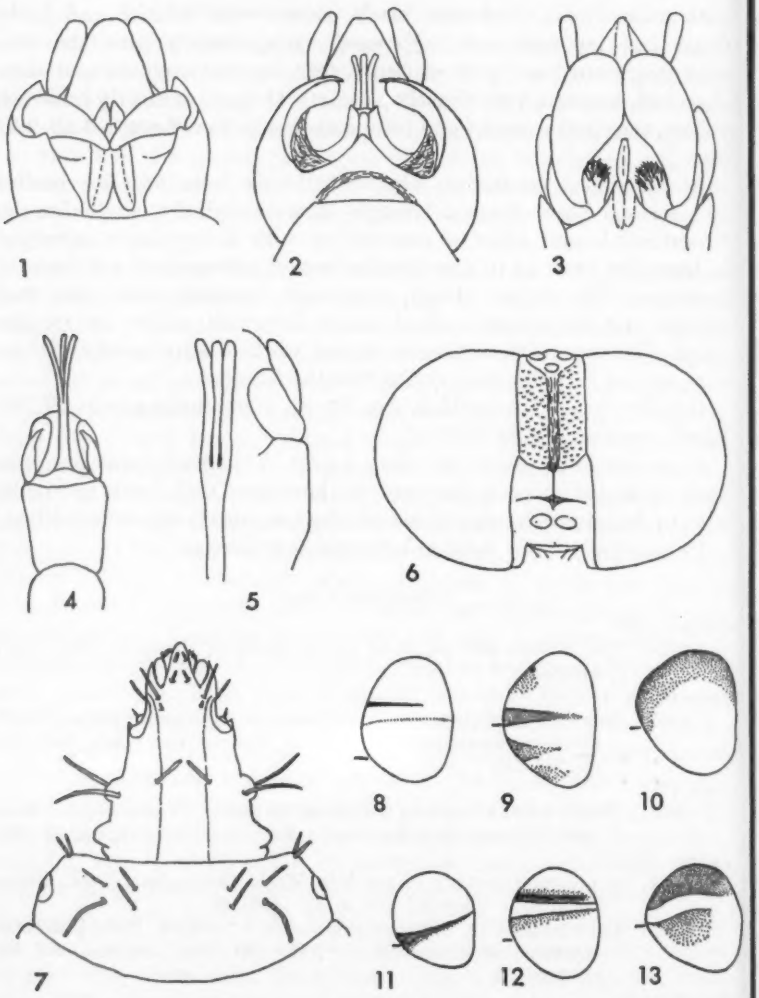
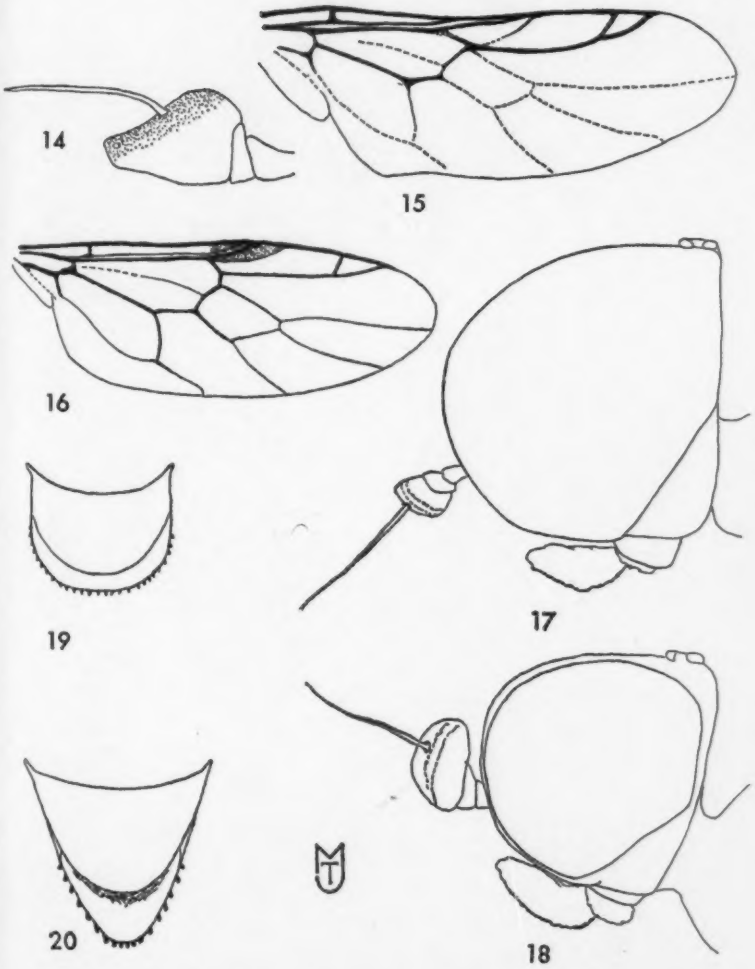


FIGURES 1–13.—Male genitalia, ventral view: 1, *Cyphomyia dominicana*, new species; 2, *Pelagomyia illucens*, new species; 3, *Merosargus eunomus*, new species; 4, *Pachygaster wirthi*, new species; 5, *Dactylodeictes depressus*, new species, aedeagus (left) and dististyli and cerci (right). Head, anterior view: 6, *M. eunomus*, new species. Head and prothorax of puparium: 7, *C. dominicana*, new species. Pattern of eye color in life (position of antennae indicated by dash): 8, *C. dominicana*, new species, female; 9, *M. eunomus*, new species, male; 10, same, female; 11, *Microchrysa bicolor* (Wiedemann), male; 12, same, female; 13, *Psephiocera marginata*, new species, female. (Figs. 8–13 by G. C. Steyskal.)



FIGURES 14–20.—*Meristocera laticornis*, new species: **14**, antenna; **15**, wing. *Pachygaster wirthi*, new species: **16**, wing; **17**, head of male, lateral view; **18**, head of female, lateral view. Scutellum: **19**, *Psephiocera callosa*, new species; **20**, *P. marginata*, new species.

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